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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,932	08/28/2003	Thomas J. Baric	2802-455-002	8065

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EXAMINER

AYRES, TIMOTHY MICHAEL

ART UNIT	PAPER NUMBER
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3637

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/650,932

Applicant(s)

BARIC ET AL.

Examiner

Timothy M. Ayres

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/28/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

This is a first office action on the merits of application SN 10/650,932.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claim 1-6 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. In claim 1 the phrase "without integral locating" is unclear since a "short locating rib" is described. The applicant should consider rephrasing to "without integral means for horizontally locating" and "short vertical locating rib". The applicant could also consider rephrasing to "without integral means for horizontal supporting".
4. In claim 1 and 19 the phrase "in opposed relation" is unclear since it implies that the flat mounting surface are on the opposite sides of the bearing ways, yet later in claim "the mounting surface" is used to describe where the bearing ways are mounted.
5. A claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph, if it meets the following 3-prong analysis:

(A) the claim limitations must use the phrase "means for " or "step for ";

(B) the "means for " or "step for " must be modified by functional language;

and

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(C) the phrase "means for " or "step for " must not be modified by sufficient structure, material or acts for achieving the specified function.

6. In claims 1 and 6 of the instant application, 35 U.S.C. 112, sixth paragraph is not invoked properly, as the phrase "means for" is not used. Specifically in claim 1, line 12, the phrase "integral locating and preload means" and the same phrase in lines 1-2 of claim 6. 35 U.S.C. 112, sixth paragraph is also revoked for claims 2-5, which are dependent upon claim 1. If an applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant must either: (A) amend the claim to include the phrase "means for" or "step for" in accordance with these guidelines; or (B) show that even though the phrase "means for" or "step for" is not used, the claim limitation is written as a function to be performed and does not recite sufficient structure, material, or acts which would preclude application of 35 U.S.C. 112, sixth paragraph.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,697,935 to Yasui in view of U.S. Patent 5,328,269 to Mutolo. Yasui '935 discloses a linear table comprising a base (5) with an essentially flat lateral mounting surface. A slide plate (4) also with an essentially flat lateral mounting surface. The slide

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plate (4) being mounted to the base (5) such that the mounting surface of the base is in opposed relation to the mounting surface of the slide plate as shown in Figure 1 below.

9. A pair of bearing assemblies (1, 1', 2, 3, 6) interposed between the base (5) and the slide plate (4), with each bearing assembly including a pair of bearing ways (1, 1') and a rolling element (2, 3) between the bearing ways, with one bearing way (1) from each bearing assembly fixedly secured to the mounting surface of the base (5). The other bearing way (1') of each bearing assembly fixedly secured to the mounting surface of the slide plate. A preload screw (7) is used to give the bearing ways a predetermined preload.

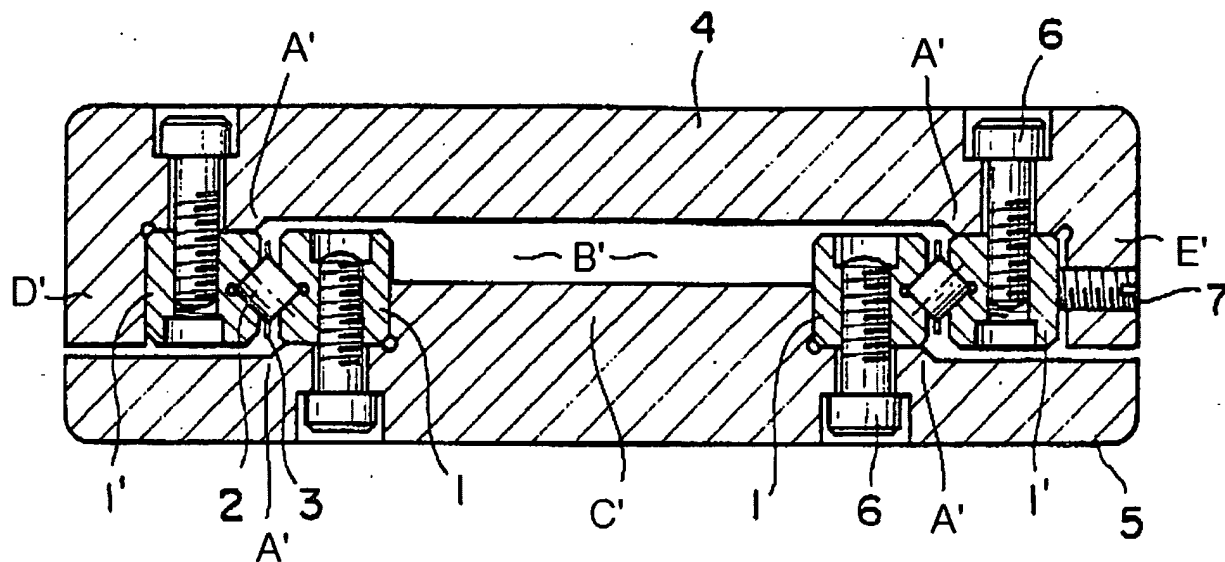
10. Regarding claim 2, each bearing way (1, 1') is supported against the respective lateral mounting surface of the base (5) or slide plate (4) by the screws (6).

11. Regarding claim 3, the base (5) and the slide plate (4) each include short locating ribs (A') projecting outwardly from the flat surfaces of the base (5) and the slide plate (4), respectively, the ribs (A') having a flat surface, and the bearing ways (1, 1') each having a corresponding flat surface located against the flat surface of the ribs (A'), the ribs spacing the bearing ways from the opposed surface of the respective base (5) or slide plate (4) as best seen in figure 1 below.

12. Regarding claim 4 each bearing way (1, 1') comprises an elongated, essentially square component in cross-section, with a rolling element (2) groove in one side surface of the bearing way (1, 1'), and a flat mounting surface on an adjacent side of the bearing way. For claim 5 each bearing way (1, 1') includes another flat side surface opposite the one side surface.

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13. Regarding claim 7, the precision parallel device (C', D', E') is located in engaging relation to one of the bearing ways of each bearing assembly. For claim 9 the precision parallel device (C') is located between the inner bearing ways (1). For claim 10 the precision parallel device (D', E') is located on the outside of the outer bearing ways (1').



Yasui '935 Figure 1

14. Yasui '935 does not disclose expressly that the bearing ways are only supported against the flat lateral mounting surface of the base or slide plate and that the linear table is without integral locating and preload means.

15. Mutolo '269 teaches a linear bearing that uses pneumatic cylinders (66,68) to create a preload through a tool member (70,72) while using a force gauge (74) to find the minimum resistance on the slide plate (18). Once the minimum resistance is met, then the structure is fastened together with either adhesive or a fastener (50).

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16. At the time of the invention it would have been obvious for a person of ordinary skill in the art to take the linear table of Yasui '935 and remove the preload screw and use the assembling method and structure of Mutolo so that it is easier to uniformly preload and it won't have the issue of screws loosening due to vibration (Mutolo, Col 2, line 18-24).

17. Neither Yasui '935 nor Mutolo '269 expressly disclose that the bearing ways are only supported by lateral surfaces. It would be obvious that the screws (6) in conjunction with the lateral surfaces can support the preload and elements (C', D', and E') are used with the preload screw (7) and once the screws (6) are securely tightened the elements (C', D, and E') are unnecessary to maintain the preload.

18. Regarding the claims 7-18, given the structure of Yasui '935 in view of Mutolo '269 it would have been obvious to have the steps of the methods of claims 7-19.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,897,213 to Feinstein discloses a slide assembly with roller bearing preload with an integral screw. U.S. Patent 5,964,535 to Feinstein discloses a slide assembly with a screw to preload the roller bearings. U.S. Patent 3,790,233 to Polidor discloses a slide assembly uses a wedge member to contact the rods of the bearing to preload the rollers. U.S. Patent 5,201,584 to Simons discloses a slide assembly that uses a spring as the shim to apply a preload force on the rollers. U.S. Patent 4,923,311 to Gibbs discloses a slide assembly that uses a shim to preload

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the roller bearings. U.S. Patent 4,773,769 to Church discloses a slide assembly that uses selective v-blocks with screws to adjust the preload. U.S. Patent 4,215,904 to Teramachi discloses a linear cross roller bearing of the type disclosed in this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy M. Ayres whose telephone number is (571) 272-8299. The examiner can normally be reached on MON-FRI 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on (571) 272-6867. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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8/2/05

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